

# Alternative Energy



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## A Stock Analyst's View of Renewable Energy Technologies

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Refer to important disclosures on page 28-34. Price Objective Basis/Risk on page 25. Analyst Certification on page 27.

# Investment Summary

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## Themes

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- Cleantech is the sixth technology revolution but is immature right now
- Three clusters of opportunity: solar, transportation, and smart grid
- Subsidization an issue—prefer efficiency/storage sectors to solar
- Expect improved 2010 with selective stock outperformance
- Cleantech investment opportunities will become much broader

## Investment Recommendations

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- Buy: Ener1 (HEV) - PO \$9 Top-tier technology with contracts coming
- Buy: Ormat (ORA) - PO \$48 Category leader, A core alt energy holding
- Neutral: Clean Energy Fuels (CLNE) - PO \$15 Leading player in an interim solution
- Neutral: Cree (CREE) - PO \$47 LEDs should be big; adoption rate is gaining momentum
- Neutral: First Solar (FSLR) - PO \$135 Cost leader but margins are eroding
- Underperform: A123 Systems (AONE) - PO \$17 Great potential but there is time
- Underperform: Covanta (CVA) - PO \$16 Waste-to-energy leader but more volatile
- Underperform: SunPower (SPWRA) - PO \$26 High efficiency but high cost

# Why Renewables?

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- Greenhouse gas emissions and global warming
- Energy security
- Rising fossil fuel prices

# Cleantech is the Sixth Revolution

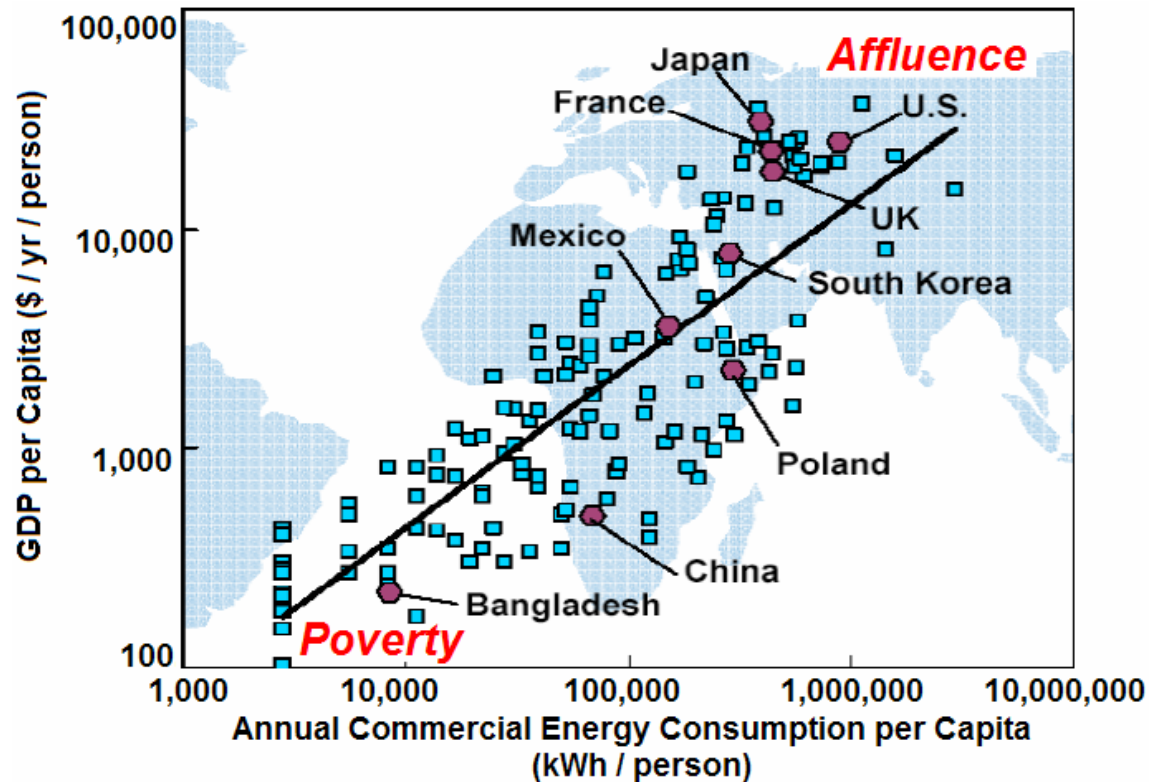
## The industries and infrastructures of each technological revolution

Technological revolution	New technologies and new or redefined industries	New or redefined infrastructures
<b>FIRST:</b> From 1771 <i>The 'Industrial Revolution'; Britain</i>	Mechanized cotton industry Wrought iron Machinery	Canals and waterways Turnpike roads Water power (highly improved water wheels)
<b>SECOND:</b> From 1829 <i>Age of Steam and Railways</i> In Britain and spreading to Continent and USA	Steam engines and machinery (made in iron; fueled by coal) Iron and coal mining (now playing a central role in growth) Railway construction Rolling stock production Steam power for many industries (including textiles)	Railways (Use of steam engine) Universal postal service Telegraph (mainly nationally along railway lines) Great ports, great depots and worldwide sailing ships City gas
<b>THIRD:</b> From 1875 <i>Age of Steel, Electricity and Heavy Engineering</i> USA and Germany overtaking Britain	Cheap steel (especially Bessemer) Full development of steam engine for steel ships Heavy chemistry and civil engineering Electrical equipment industry Copper and cables Canned and bottled food Paper and packaging	Worldwide shipping in rapid steel steamships (use of Suez Canal) Worldwide railways (use of cheap steel rails and bolts in standard sizes) Great bridges and tunnels Worldwide Telegraph Telephone (mainly nationally) Electrical networks (for illumination and industrial use)
<b>FOURTH:</b> From 1908 <i>Age of Oil, the Automobile and Mass Production</i> In USA and spreading to Europe	Mass-produced automobiles Cheap oil and oil fuels Petrochemicals (synthetics) Internal combustion engine for automobiles, transport, tractors, airplanes, war tanks and electricity Home electrical appliances Refrigerated and frozen foods	Networks of roads, highways, ports and airports Networks of oil ducts Universal electricity (industry and homes) Worldwide analog telecommunications (telephone, telex, and cablegram) wire and wireless
<b>FIFTH:</b> From 1971 <i>Age of Information and Telecommunications</i> In USA, spreading to Europe and Asia	The information revolution: Cheap microelectronics Computers, software Telecommunications Control instruments Computer-aided biotechnology and new materials	World digital telecommunications (cable, fiber optics, radio and satellite) Internet/Electronic mail and other e-services Multiple source, flexible use, electricity networks High-speed physical transport links (by land, air and water)
<b>SIXTH:</b> From 2003 <i>Age of Cleantech and Biotech</i> In USA and Europe going global	Renewable energy led by solar, wind, and biofuels Energy efficiency Energy storage technologies Electric vehicles Nano materials Synthetic biology	Enhanced electricity transmission capabilities Decentralization of power generation Connection of electricity and transportation energy infrastructures Demand/Response management Increased availability of water and electricity Extensive gene data banks

Source: BofA Merrill Lynch Global Research ; Carlotta Perez, "Technological Revolutions and Financial Capital"

# GDP Drives Energy

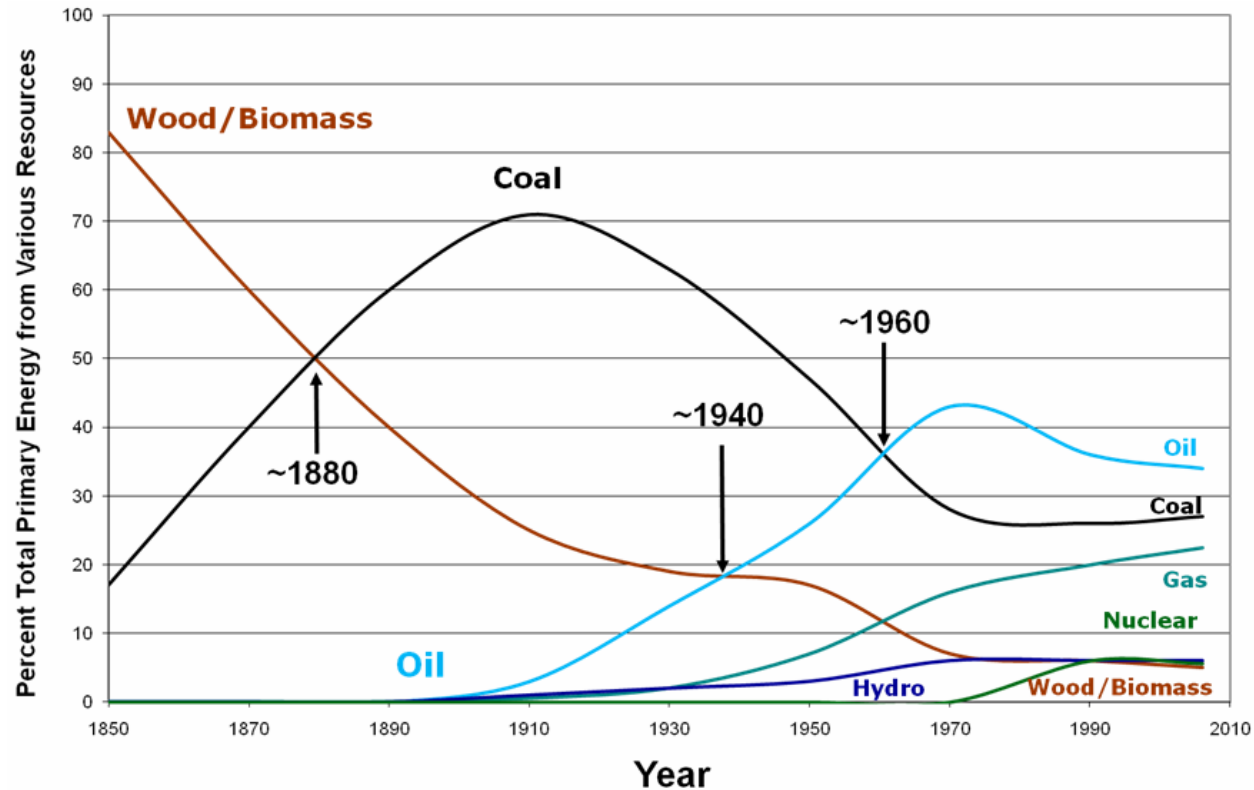
A burgeoning middle class will strain resources



Source: World Resources Institute Database 1996-1997, KR Sridhar

# Multiple Approaches Required

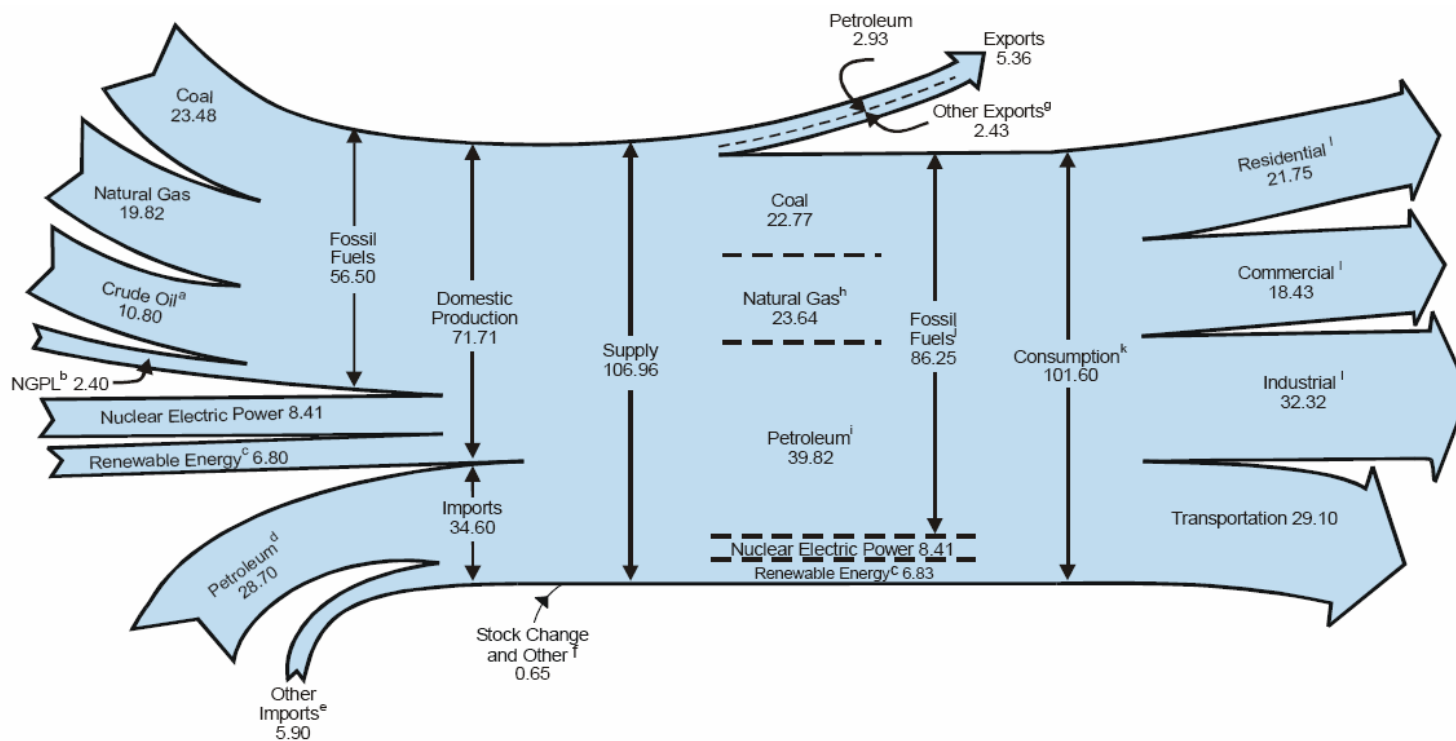
Changes in global energy mix have occurred before



Source: Ripudaman Malhotra, SRI International

# Renewables are Miniscule

## US energy flow, 2007 (quadrillion Btu)



<sup>a</sup> Includes lease condensate.

<sup>b</sup> Natural gas plant liquids.

<sup>c</sup> Conventional hydroelectric power, biomass, geothermal, solar/photovoltaic, and wind.

<sup>d</sup> Crude oil and petroleum products. Includes imports into the Strategic Petroleum Reserve.

<sup>e</sup> Natural gas, coal, coal coke, fuel ethanol, and electricity.

<sup>f</sup> Adjustments, losses, and unaccounted for.

<sup>g</sup> Coal, natural gas, coal coke, and electricity.

<sup>h</sup> Natural gas only; excludes supplemental gaseous fuels.

<sup>i</sup> Petroleum products, including natural gas plant liquids, and crude oil burned as fuel.

<sup>j</sup> Includes 0.03 quadrillion Btu of coal coke net imports.

<sup>k</sup> Includes 0.11 quadrillion Btu of electricity net imports.

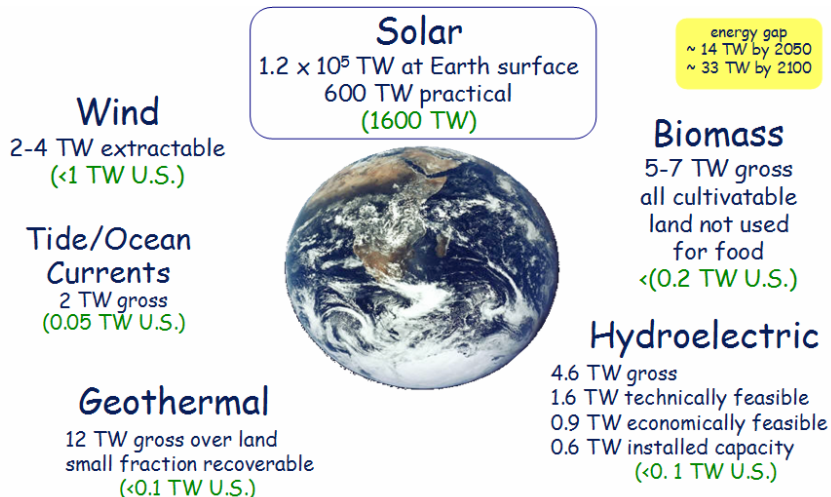
<sup>l</sup> Primary consumption, electricity retail sales, and electrical system energy losses, which are allocated to the end-use sectors in proportion to each sector's share of total electricity retail sales. See Note, "Electrical Systems Energy Losses," at end of Section 2.

Notes: • Data are preliminary. • Values are derived from source data prior to rounding for publication. • Totals may not equal sum of components due to independent rounding.

Sources: Tables 1.1, 1.2, 1.3, 1.4, and 2.1a.

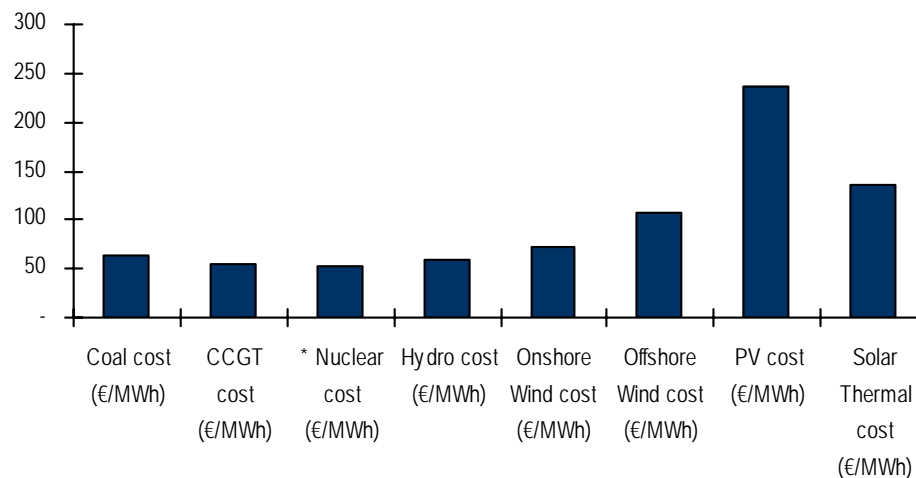
# Solar is the Best Solution, But It is Expensive

## Long-term potential of renewable energies



Source: Nate Lewis, Caltech

## Cost of electricity generation



Source: BofA Merrill Lynch Global Research estimates

# Investing Quadrants

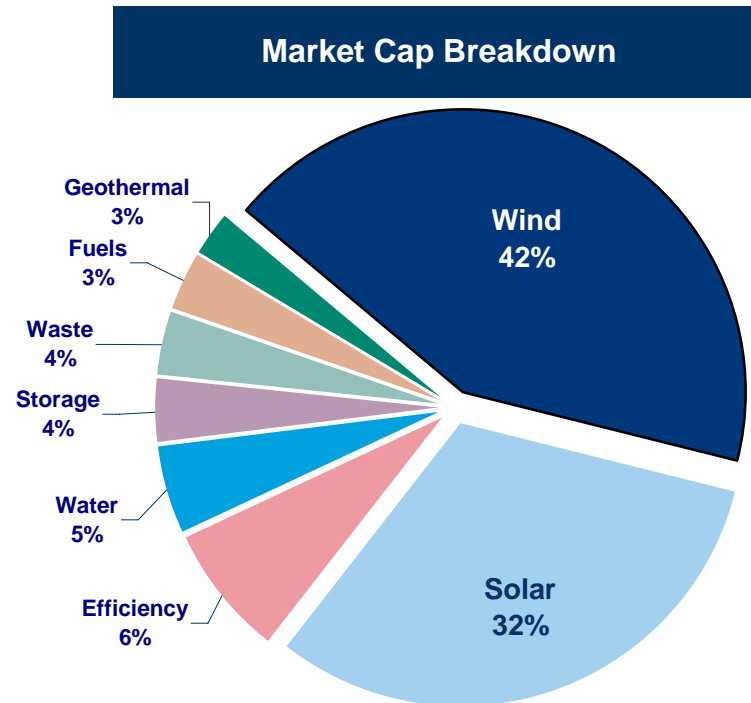
Electricity	<ol style="list-style-type: none"> <li>1. HVAC, lighting, appliance</li> <li>2. Grid demand response</li> <li>3. Data center</li> <li>4. Waste energy recovery</li> <li>5. Public awareness</li> </ol>	<ol style="list-style-type: none"> <li>1. Solar</li> <li>2. Fuel cell</li> <li>3. Wind</li> <li>4. Nuclear</li> <li>5. Biomass</li> <li>6. Clean coal</li> <li>7. Geothermal</li> <li>8. Batteries</li> </ol>
	<ol style="list-style-type: none"> <li>1. More efficient motors</li> <li>2. Electric or hybrid vehicles</li> <li>3. Building materials</li> <li>4. Bio-based chemicals</li> </ol>	<ol style="list-style-type: none"> <li>1. Biofuel</li> <li>2. Enhanced oil</li> <li>3. Enhanced gas recovery</li> <li>4. Coal to fuel and gas</li> </ol>
Demand (Efficiency)		Supply (Generation & Storage)

Source: New Enterprise Associates

# Solar and Wind Dominate

Sector	Mkt Cap (US mln)
Wind	74,598
Solar	55,555
Efficiency	12,867
Water	8,689
Storage	6,332
Waste	6,270
Fuels	5,676
Geothermal	4,557
<b>Total</b>	<b>174,543</b>

Source: BofA Merrill Lynch Global Research , Bloomberg

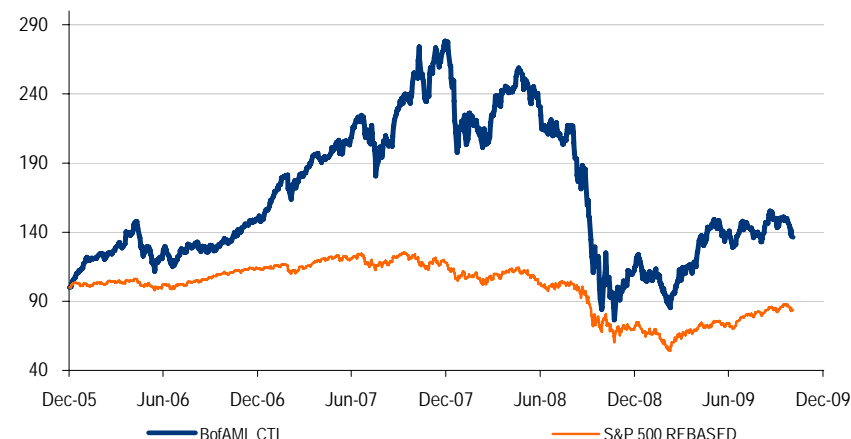


# Cleantech Performance (through 11/09)

## BofAML Cleantech Index



## BofAML Cleantech Index vs. S&P 500



Source: BofA Merrill Lynch Global Research , Bloomberg

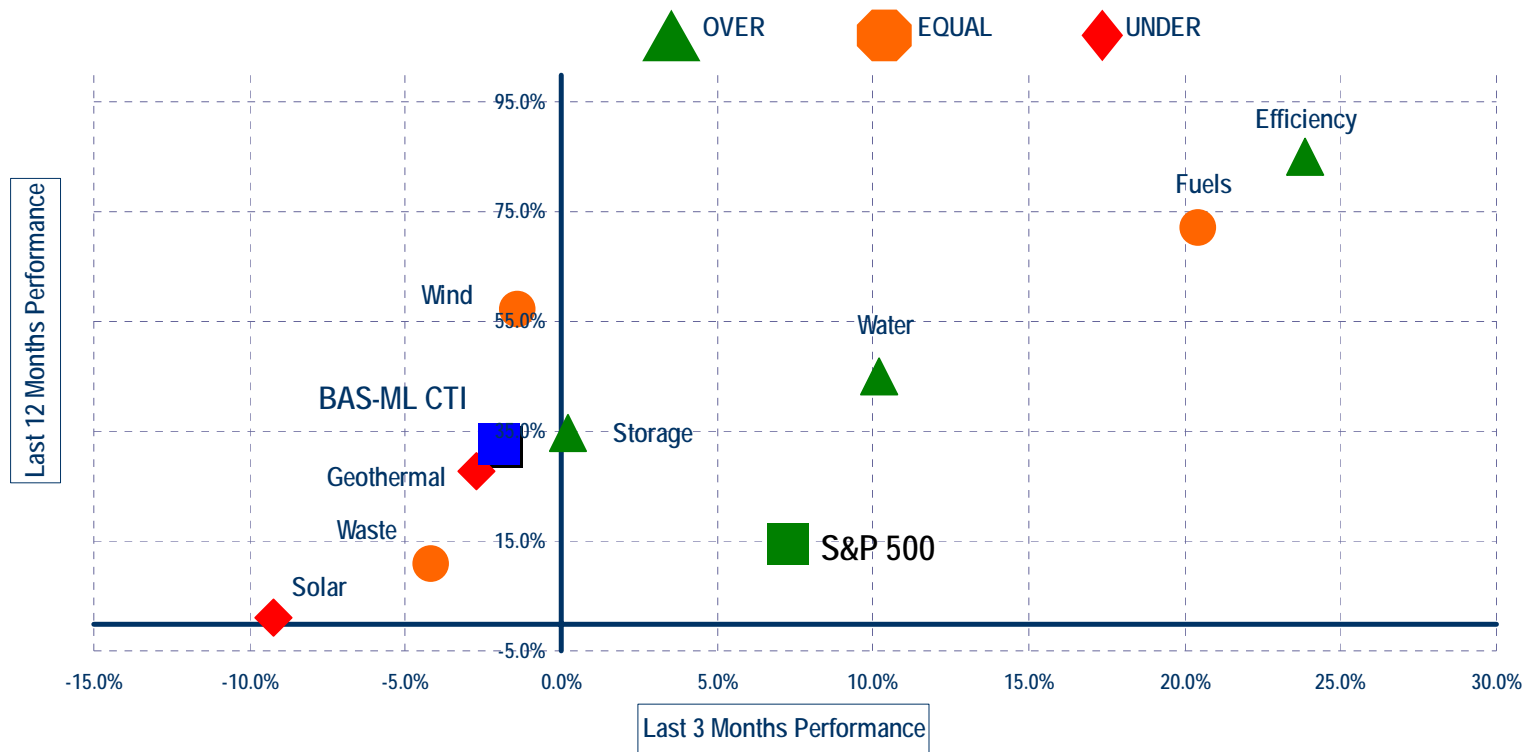
Source: BofA Merrill Lynch Global Research , Bloomberg

Sectors	Weight	Price Change			P/S	P/E 2009	P/E 2010	Est. 5yr EPS Gr.	PEG
		Last 3 Mths	Year-to Date	Last 12 Mths					
Efficiency	Over	24%	52%	85%	1.9x	27.4x	31.9x	18%	1.5x
Storage	Over	0%	41%	35%	3.7x	17.1x	22.2x	16%	1.6x
Water	Over	10%	37%	45%	1.5x	23.3x	19.1x	17%	1.2x
Fuels	Equal	20%	95%	72%	1.1x	17.1x	12.5x	25%	1.0x
Wind	Equal	-1%	22%	57%	2.0x	28.1x	22.9x	16%	1.0x
Waste	Equal	-4%	18%	11%	1.2x	20.9x	16.9x	13%	1.2x
Geothermal	Under	-3%	27%	28%	3.9x	20.5x	17.6x	20%	1.0x
Solar	Under	-9%	13%	1%	1.1x	19.5x	16.7x	14%	1.0x
BofAML Cleantech		-2%	23%	33%	1.7x	20.7x	18.3x	17%	1.1x
S&P 500		7%	28%	15%	1.2x	17.8x	14.3x	10%	1.5x

Source: BofA Merrill Lynch Global Research , Bloomberg

# Solar Lags

## Alternative Energy sector performance



Source: BofA Merrill Lynch Global Research , Bloomberg

# Correlations Should Decline

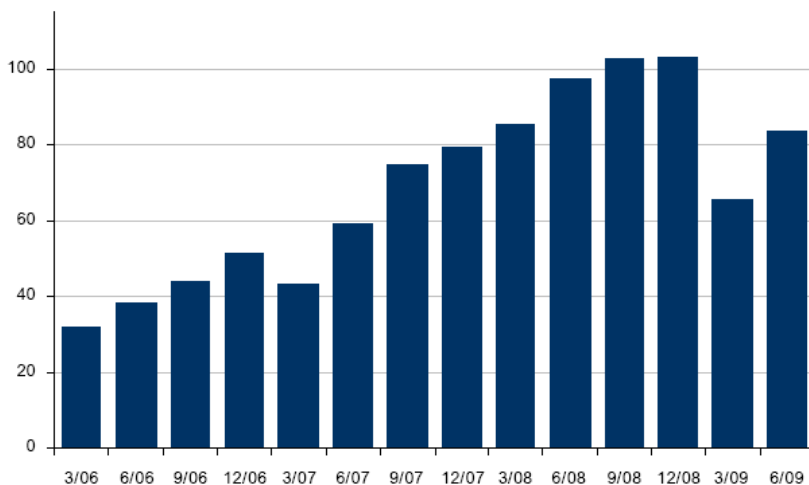
Sector correlations (December 30, 2005 – September 30, 2009)

	BofAML CTI	OIL	S&P 500	EFFICIENCY	FUELS	GEOTHERMAL	SOLAR	STORAGE	WASTE	WATER	WIND
BofAML CTI		0.75	0.68	0.48	0.39	<b>0.87</b>	<b>0.99</b>	0.54	<b>0.93</b>	0.81	<b>0.98</b>
OIL	0.75		0.40	0.38	<b>0.07</b>	0.78	0.76	0.68	0.84	0.50	0.68
S&P 500	0.68	0.40		0.76	<b>0.89</b>	0.45	0.67	0.70	0.50	0.81	0.63
EFFICIENCY	0.48	0.38	0.76		0.70	0.52	0.47	0.81	<b>0.32</b>	0.68	0.38
FUELS	0.39	<b>0.07</b>	<b>0.89</b>	0.70		<b>0.16</b>	0.36	0.56	<b>0.17</b>	0.67	0.37
GEOTHERMAL	<b>0.87</b>	0.78	0.45	0.52	<b>0.16</b>		<b>0.87</b>	0.57	0.84	0.65	0.79
SOLAR	<b>0.99</b>	0.76	0.67	0.47	0.36	<b>0.87</b>		0.55	<b>0.92</b>	0.76	<b>0.95</b>
STORAGE	0.54	0.68	0.70	0.81	0.56	0.57	0.55		0.51	0.56	0.41
WASTE	<b>0.93</b>	0.84	0.50	<b>0.32</b>	<b>0.17</b>	0.84	<b>0.92</b>	0.51		0.67	<b>0.91</b>
WATER	0.81	0.50	0.81	0.68	0.67	0.65	0.76	0.56	0.67		0.79
WIND	<b>0.98</b>	0.68	0.63	0.38	0.37	0.79	<b>0.95</b>	0.41	<b>0.91</b>	0.79	

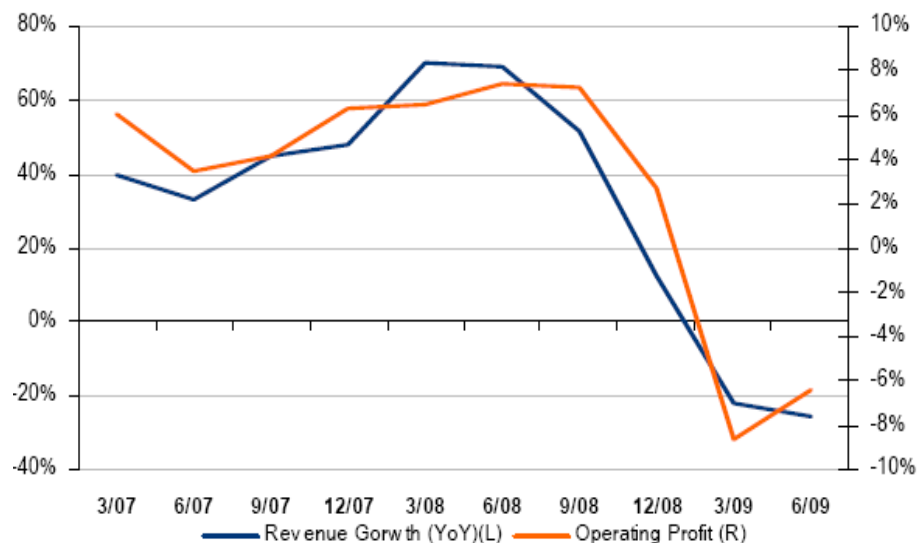
Source: BofA Merrill Lynch Global Research, Bloomberg

# Deceleration Has Set In

Cleantech revenue, last three years by quarter



Cleantech revenue growth and operating margin

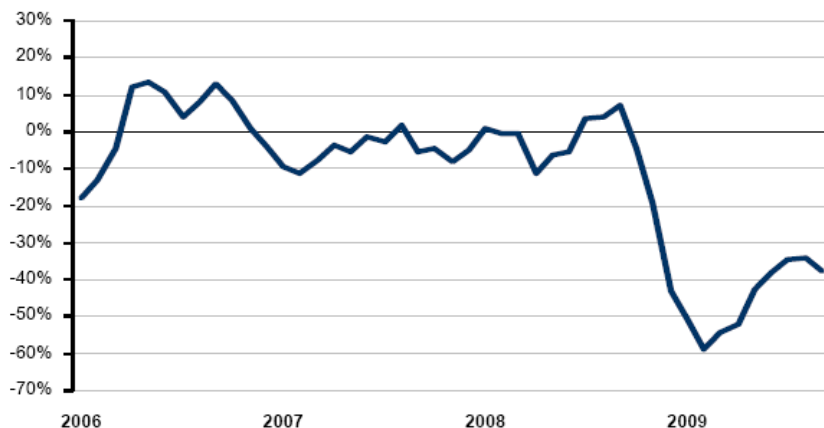


Revenue growth, by sector (YoY)

Sector	Dec-07	Mar-08	Jun-08	Sep-08	Dec-08	Mar-09	Jun-09
Geothermal	95%	-50%	-51%	-39%	-27%	153%	114%
Fuels	44%	52%	33%	26%	-32%	-10%	-5%
Water	18%	19%	25%	19%	10%	-6%	-9%
Efficiency	57%	38%	13%	11%	-4%	-8%	-19%
Wind	83%	98%	88%	52%	8%	-35%	-27%
Waste	37%	40%	45%	67%	-2%	-20%	-32%
Solar	22%	93%	105%	84%	45%	-17%	-32%
Storage	25%	27%	34%	21%	-3%	-24%	-35%
<b>BofAML Cleantech</b>	<b>48%</b>	<b>70%</b>	<b>69%</b>	<b>52%</b>	<b>13%</b>	<b>-22%</b>	<b>-26%</b>

# Revisions Bottoming?

## Cleantech earnings revisions



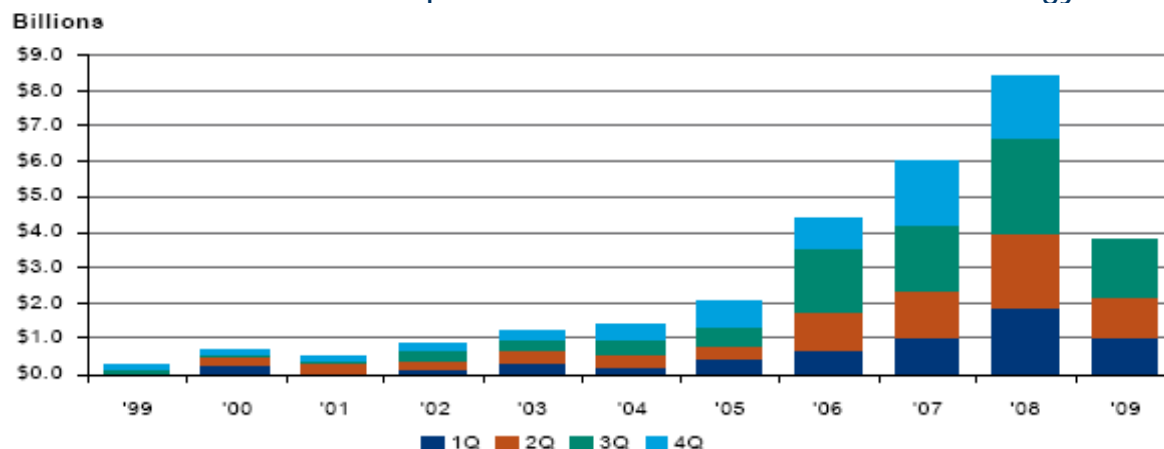
## Sector earnings revisions

	Apr-09	May-09	Jun-09	Jul-09	Aug-09	Sep-09	TREND
Fuels	-35%	-53%	-29%	-9%	2%	8%	Positive
Water	-40%	-33%	-37%	-24%	-25%	-2%	Positive
Storage	-38%	-33%	-34%	-28%	-23%	-13%	Positive
Efficiency	-49%	-20%	-11%	-2%	-10%	-14%	Negative
Geothermal	-21%	-34%	-6%	-23%	-9%	-26%	Negative
Wind	-39%	-29%	-27%	-28%	-34%	-35%	Negative
Waste	-85%	-46%	-61%	-37%	-57%	-35%	Positive
Solar	-57%	-51%	-49%	-47%	-45%	-52%	Negative
<b>ML Cleantech</b>	<b>-52%</b>	<b>-43%</b>	<b>-38%</b>	<b>-35%</b>	<b>-34%</b>	<b>-38%</b>	<b>Negative</b>

Source: BofA Merrill Lynch Global Research, FactSet

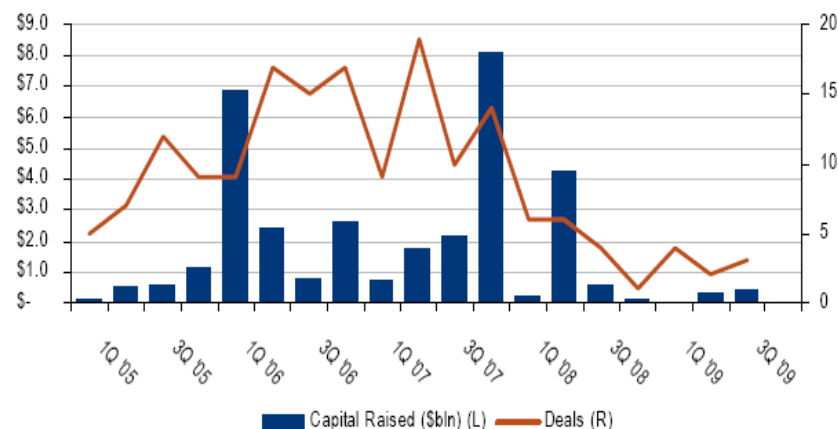
# Cleantech Investments

Global venture capital investments in Alternative Energy



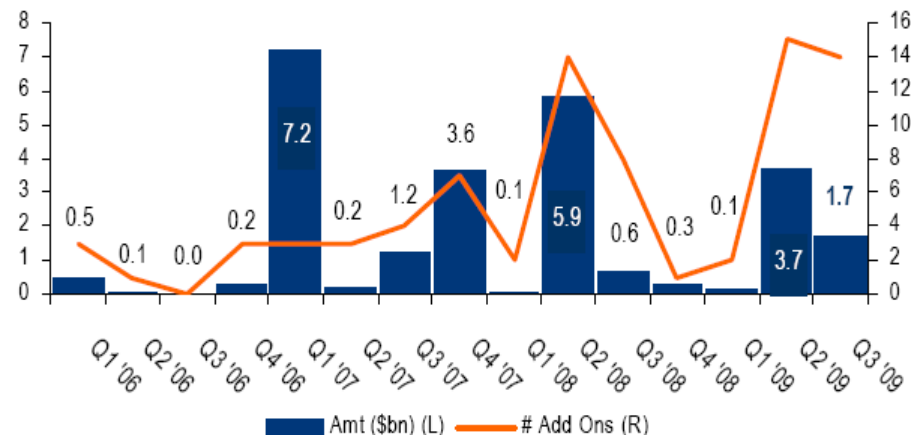
Source: Cleantech Group

Global Alternative Energy IPOs, by quarter



Source: Cleantech Group

Global Alternative Energy Add-Ons, by quarter



Source: BofA Merrill Lynch Global Research, Bloomberg

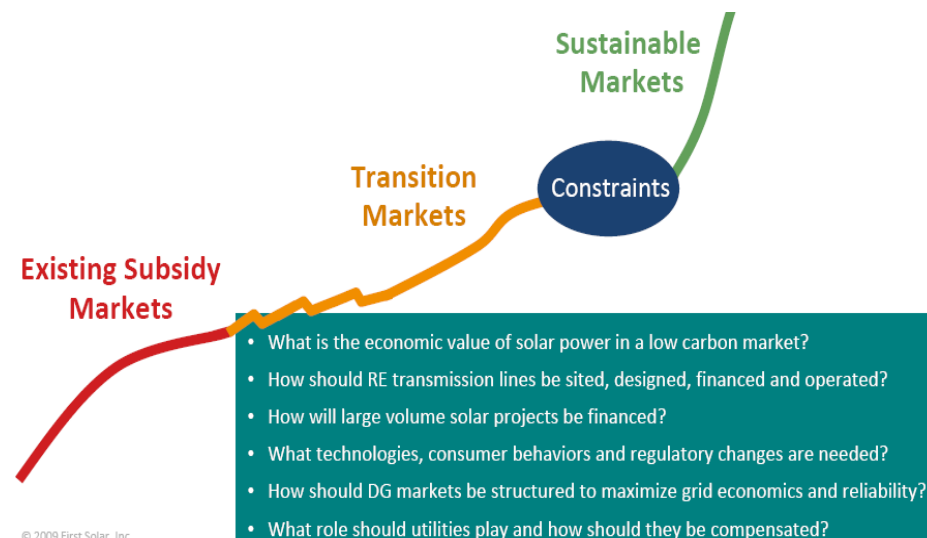
# Solar Heading Toward Grid Parity

## Migration to Sustainable Markets is Occurring in Phases

	<u>Existing Solar Subsidy Markets</u> ~\$0.30–0.60/kwh	<u>Transition Markets</u> ~\$0.15–0.25/kwh (Before U.S. tax subsidies)	<u>Sustainable Markets</u> \$0.10–0.15/kwh
Wholesale Price (non-subsidized)	(5–10X > Conventional)	(2–5X > Conventional)	Long-term economic viability
Program Purpose	Market creation	Market scale	Low carbon infrastructure
Public Cost	High	Lower on per unit basis	Minimal
Public Benefits	Technology and industrial development	Groundwork for sustainable markets	External benefits
Grid Integration	Minimal	Transformative	Evolutionary
Market Evolution Assumptions	Some markets migrate to transition markets	Mostly markets that intend to become sustainable	Characterized by markets with unmet energy needs, high GHG emissions and irradiance

Source: First Solar

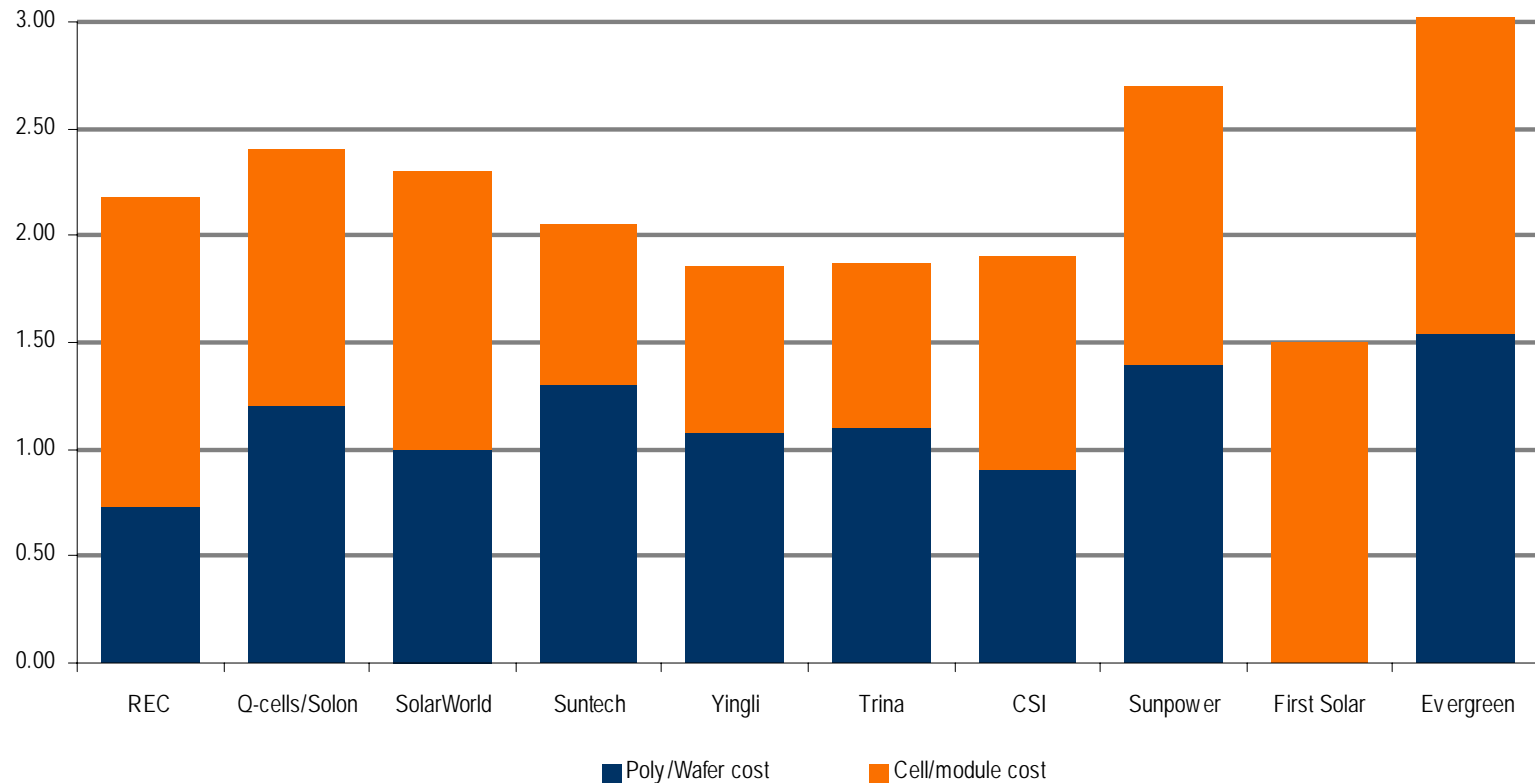
## Migration from Existing Subsidy Markets to Transition Markets is Discontinuous



Source: First Solar

# Commodity Market Requires Cost Leadership

Cost comparison of the major industry companies (\$/watt)



Source: BofA Merrill Lynch Global Research , Company Reports

# A Pause in 2009

- Moving from a supply constrained environment to demand constrained?
  - German government assumed <1.7GW installed in 2010
  - Spain introducing a 500MW cap
  - Japan reintroducing limited subsidies from April
  - Obama's stimulus will help but take 6 months to have an impact
  - Italian government only targeting 1.2GW by 2010
  - Greece still suffering from admin hurdles
  - France's lower tariff more attractive after recent module price fall
  - China and Australia showing more interest

## Annual GW installations

	2007	2008	2009E	2010E	2011E	2012E
Bottoms up cell production (MW)	4,961	8,404	12,620	17,844	23,041	26,741
Available for installation	4,134	7,003	10,517	14,870	19,201	22,284
Utilisation rate	68%	82%	54%	60%	65%	77%
<b>Solar Demand Model</b>	<b>2007</b>	<b>2008</b>	<b>2009E</b>	<b>2010E</b>	<b>2011E</b>	<b>2012E</b>
Germany	1,328	2,000	2,400	3,000	2,500	2,500
Spain	640	2,400	500	460	400	600
Japan	230	200	300	500	750	1,000
U.S.A.	220	350	550	1,250	2,500	4,000
Italy	90	250	600	1,000	1,200	1,500
France	50	100	300	500	800	1,200
Greece	3	10	200	400	500	600
China	23	30	200	750	2,000	3,000
India	30	20	50	250	500	1,000
South Korea	50	250	150	200	400	600
ROW	162	150	400	600	900	1,200
<b>Total WW Installations</b>	<b>2,826</b>	<b>5,760</b>	<b>5,650</b>	<b>8,910</b>	<b>12,450</b>	<b>17,200</b>
y/y growth	62%	104%	-2%	58%	40%	38%

Source: BofA Merrill Lynch Global Research estimates, SolarBuzz

## We expect industry revenues to fall 36% in 2009

	2007	2008	2009E	2010E	2011E	2012E
Average system Price (EUR)	4.60	4.67	3.20	2.70	2.40	2.20
Y/Y Change	-4%	1%	-31%	-16%	-11%	-8%
Module price (EUR)	2.76	2.80	1.60	1.35	1.20	1.10
	-13%	1%	-43%	-16%	-11%	-8%
Module price (USD)	3.78	4.14	2.24	1.89	1.68	1.54
	-6%	10%	-46%	-16%	-11%	-8%
Industry revenue (EURbn)	13.0	26.9	18.1	24.1	29.9	37.8
Industry revenue (USDbn)	17.8	39.8	25.3	33.7	41.8	53.0
y/y		123%	-36%	33%	24%	27%

Source: BofA Merrill Lynch Global Research estimates

Note: Assumes 1EUR = 1.40 USD from 2009 forward

# Solar Revenue, Margins Pressured

## Bottoms up revenue forecast (-7%)

All in USDmn Company	2008 Rev	2009 Rev	YoY
<b>US</b>			
First Solar	1,246	2,012	61%
MEMC	2,005	1,137	-43%
Sunpower	1,435	1,518	6%
<b>Total</b>	<b>4,686</b>	<b>4,666</b>	<b>0%</b>
<b>Europe</b>			
Centrotherm	561	786	40%
Q-Cells	1,831	1,494	-18%
REC	1,450	1,669	15%
SMA	997	1,062	6%
SolarWorld	1,317	1,463	11%
Wacker	6,289	5,649	-10%
<b>Total</b>	<b>12,445</b>	<b>12,122</b>	<b>-3%</b>
<b>Asia</b>			
Motech	725	477	-34%
Renesola	670	444	-34%
Suntech	1,924	1,433	-26%
Tokuyama	2,692	2,995	11%
Trina	832	743	-11%
JA Solar	785	367	-53%
China Sunergy	351	242	-31%
Sino American	286	270	-6%
Yingli Green-ADR	1,087	984	-9%
<b>Total</b>	<b>9,352</b>	<b>7,955</b>	<b>-15%</b>
<b>World Total</b>	<b>26,483</b>	<b>24,744</b>	<b>-7%</b>

Source: BofA Merrill Lynch Global Research estimates, companies

## High capex tends to result in high debt levels

Company	Net debt/ EBITDA 2009	Net debt/ EBITDA 2010	Capex/ Sales 2009
<b>US</b>			
First Solar	-0.2	-0.6	14%
MEMC	-24.2	-3.5	16%
Sunpower	1.3	1.5	14%
<b>Europe</b>			
Centrotherm	-1.2	-1.2	13%
Q-Cells	27.5	2.8	39%
REC	6.3	3.7	121%
SMA	-1.3	-1.1	8%
SolarWorld	0.9	1.6	30%
Wacker	0.1	0.1	22%
<b>Asia</b>			
Motech	9.7	0.7	6%
Renesola	-2.3	4.5	47%
Suntech	5.4	1.3	7%
Tokuyama	0.9	-0.2	0%
Trina	1.9	2.2	16%
JA Solar	-52.3	-4.0	22%
China Sunergy	-0.4	0.0	4%
Sino American	-0.1	-0.3	3%
Yingli Green-ADR	1.3	0.4	26%

Source: BofA Merrill Lynch Global Research estimates, companies

## Margin evolution

Company	Operating Margin 2008	Operating Margin 2009
<b>US</b>		
First Solar	35%	34%
MEMC	43%	-6%
Sunpower	12%	6%
<b>Europe</b>		
Q-Cells	16%	-16%
REC	31%	1%
SMA	25%	19%
SolarWorld	29%	16%
Wacker	15%	5%
<b>Asia</b>		
Motech	12%	-1%
Renesola	-7%	-14%
Suntech	9%	6%
Tokuyama	11%	8%
Trina	12%	13%
JA Solar	13%	-7%
China Sunergy	-2%	-6%
Sino American	21%	17%
Yingli Green	15%	10%
Canadian Solar*	9%	3%
LDK Solar*	9%	5%

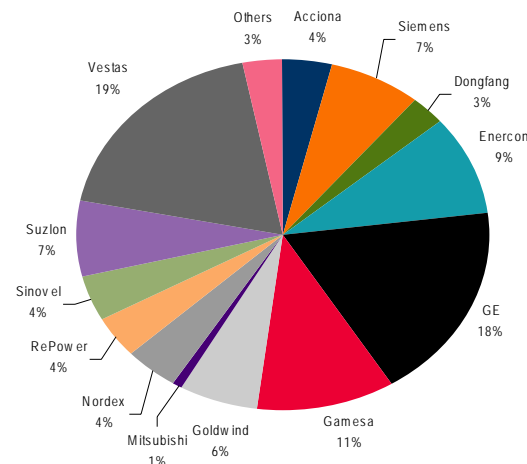
Source: BofA Merrill Lynch Global Research estimates, companies

\* Bloomberg consensus

# Structurally Prefer Wind to Solar but Valuations Somewhat Reflect This

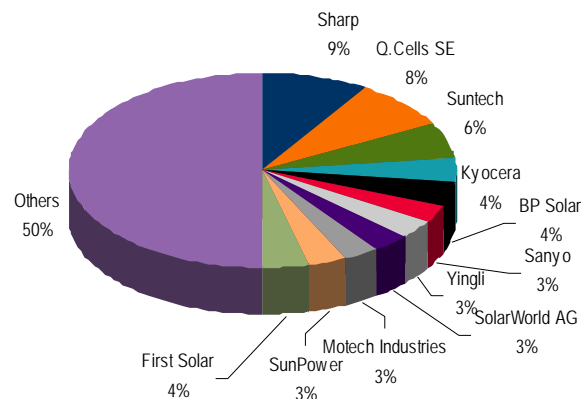
- Higher barriers to entry - Top 5 wind turbine companies have 76% share versus only 31% in solar
- More diverse geographic demand - Top two markets in wind are only 44% versus 75% in solar
- Lower costs - Wind is competitive at \$60-90 oil versus \$200-250 for solar
- More mature technology - Little radical innovation in wind while PV has thin film, U-MGS and solar thermal
- Scalability - recent utility orders show the potential of solar
- Earnings - Solar has volume growth but not faster profit growth given margin pressure

Wind turbine market share (2008)



Source: BTM Consult

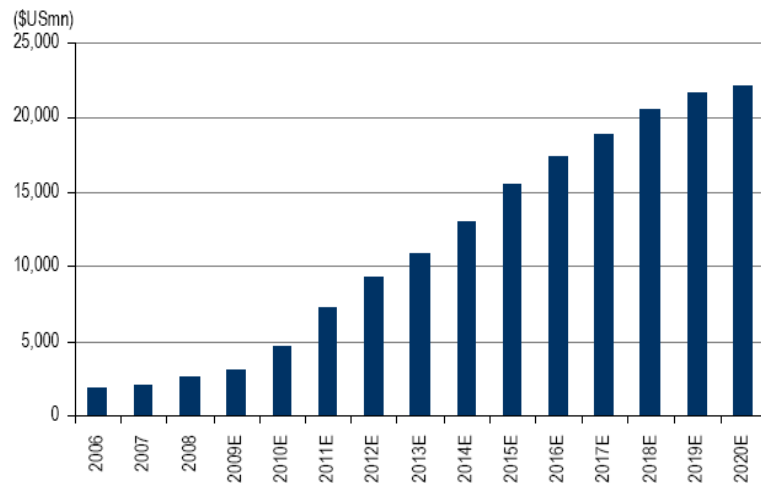
Solar cell capacity share (end of 2008)



Source: Photon

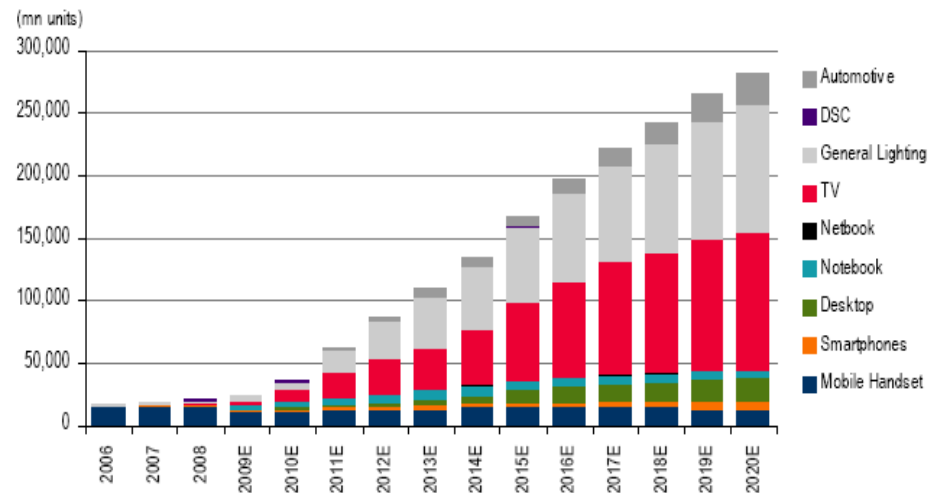
# LED Outlook is Bright

White LED market trend (*value*)



Source: BofA Merrill Lynch Global Research estimates

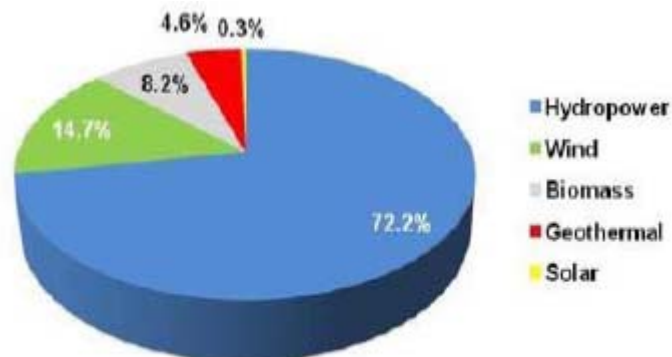
White LED shipment trend by application (*millions*)



Source: BofA Merrill Lynch Global Research estimates

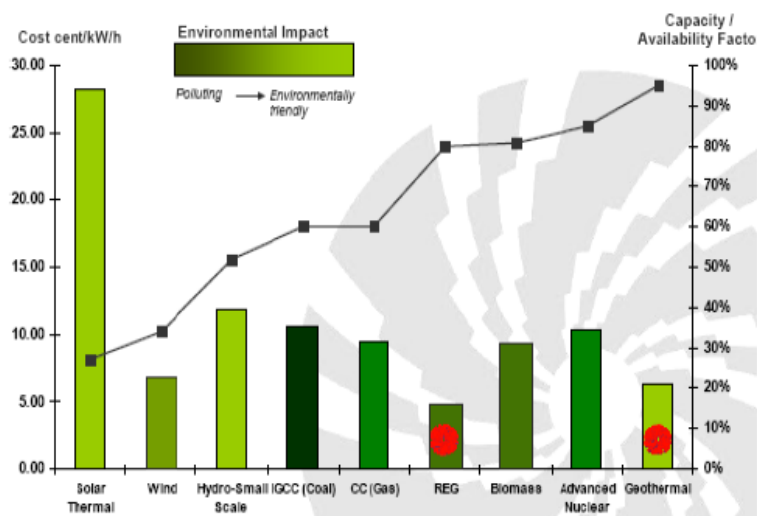
# Geothermal is Overlooked

Geothermal makes-up ~5% of renewable generation in the US (2008)



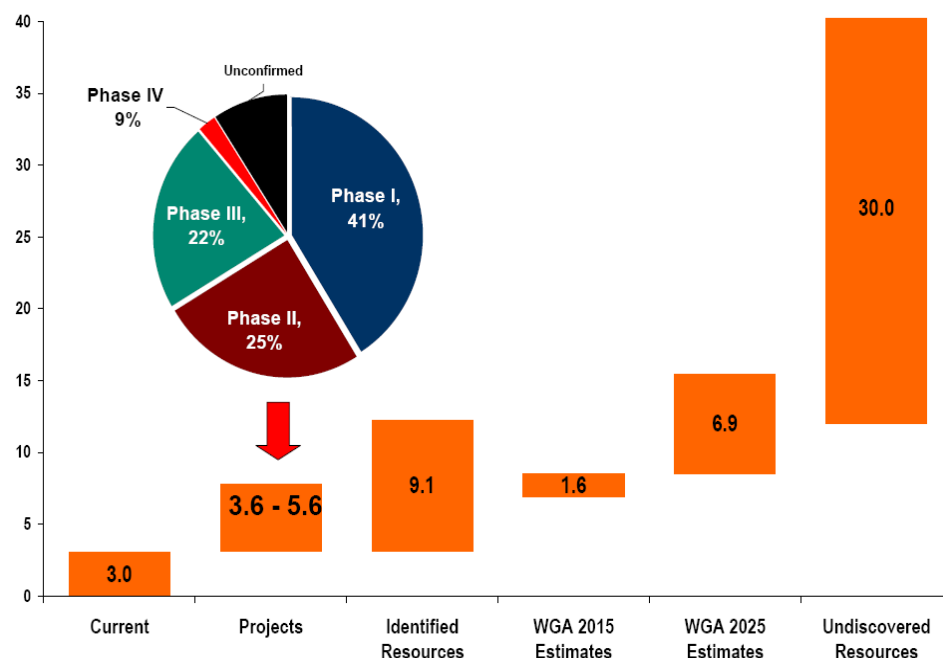
Source: Energy Information Association

Geothermal's high availability = low LCOE



Source: Ormat Technologies

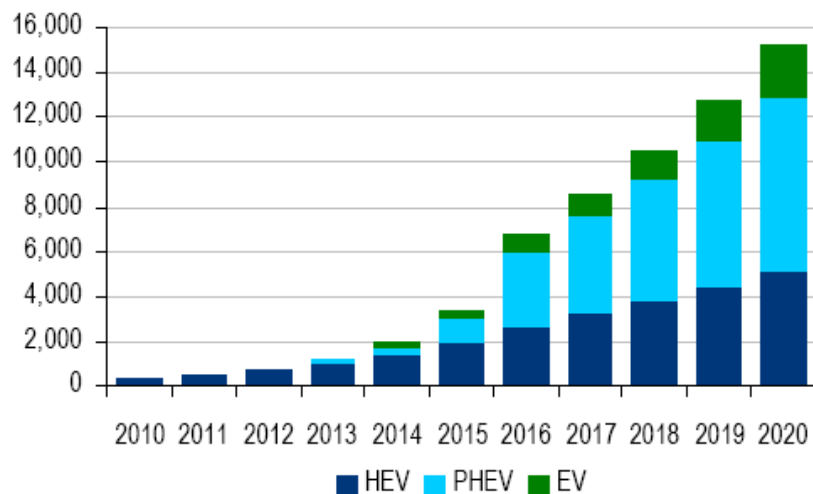
US capacity is expected to double in 6-7 years



Source: Geothermal Energy Association, US Geological Survey, Western Governors Association  
† Does not include potential generation from Enhanced Geothermal Systems (EGS)

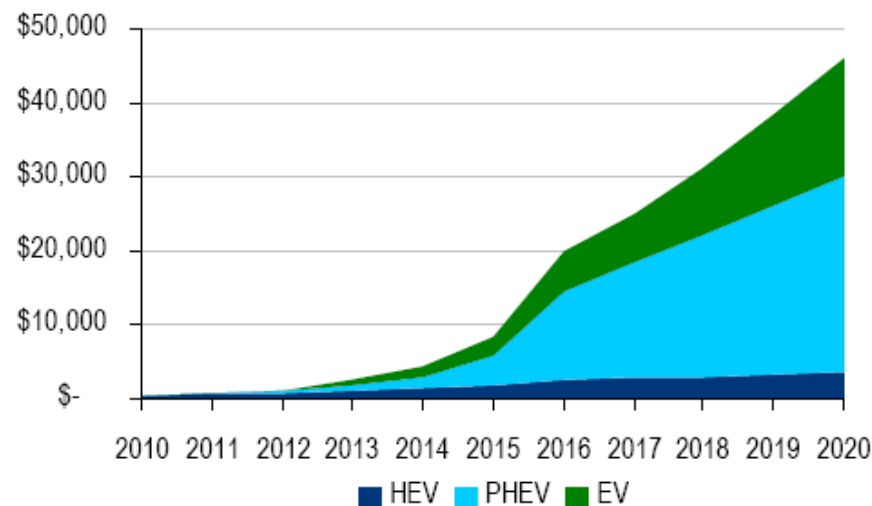
# End of the ICE Age

xEV unit sales forecast (*thousands*)



Source: BofA Merrill Lynch Global Research estimates

Battery industry revenue forecasts (*millions*)



Source: BofA Merrill Lynch Global Research estimates

Company	Chemistry	HQ	Factory Location(s)	Announced Partners	Announced Customers / (additional supplier)
A123 Systems	LFP	US	US, China, Korea	GE	Fiat/Chrysler, BMW, SAIC (GM, Nissan Renault, Daimler)
AESC (NEC)	LMO	Japan	Japan	Nissan	Nissan, Subaru
BYD	LFP	China	China		BYD
Dow / Kokam JV	LMO	US, Korea	US, Korea	Magna	(Ford)
EnerDel	LTO	US	US, Korea	ITOCHU	Th!nk, Fisker, Volvo
GS YUASA	NiMH (HEVs) / LMO	Japan	Japan	Mitsubishi Motor	Mitsubishi, Honda
Hitachi	LMO	Japan	Japan	Shinkobe	(GM)
Johnson Controls	NCA	US	US, Europe		(Ford, Daimler, BMW)
LG Chem	LMO	Korea	Korea	Compact Power	GM, Hyundai
Li-Tec (Daimler)	LCO	Germany	Germany		Daimler
Panasonic EV	NiMH (HEVs) / LCO	Japan	Japan	Toyota	Toyota
Saft Groupe	NCA	France	France	Johnson Control	GM, Ford, Daimler
Samsung	LMO	Korea	Korea	Bosch	BMW
Sanyo	NiMH (HEVs) / LMO	Japan	Japan	Continental	VW, Porsche, Audi, Ford

Source: BofA Merrill Lynch Global Research, companies

# Price Objective Basis and Risk

## **A123 Systems (AONE)**

Our price objective of \$17 is supported by three valuation metrics: (1) EV-to-sales of 3.5x based on our 2011 estimated sales of \$310 million, (2) EV-to-EBITDA multiple of 6.0x based on 2012 estimated EBITDA, and (3) a discounted cash flow analysis with a WACC of 13% and a terminal EV/EBITDA multiple of 7.5x.

Upside risks to our price objective are: (1) the market for lithium-ion batteries could be larger and evolve sooner than we expect, which could result from higher oil prices, (2) significant share if A123 turns development into production contracts, and (3) the market for grid storage accelerates sooner than expected. Downside risks to our price objective are: (1) the company's key auto relationship with Chrysler may fail to evolve should Chrysler face financial difficulties, (2) the company's patent litigation may result in a higher than expected royalty fee, (3) the electric vehicle industry could develop later than expected or not at all, and (4) Asian companies with more battery experience and greater resources could dominate the battery market.

## **Clean Energy Fuels Corp. (CLNE)**

We rate the stock a Neutral with an \$15.00 price objective. Our valuation is based on (1) a target EV/S ratio of 3.5x on 2010E revenue, in line with the median of high growth Cleantech comparables that exhibit similar trends in revenue growth, (2) 40x our 2011 adjusted estimate of \$0.47 discounted back, and (3) the correlation of the stock with the oil-to-gas ratio if oil continue to rise as our commodity research team expects. Upside potential appears limited, however, until natural gas becomes more widely accepted, resulting in profitability, free cash flow, and a return on capital in excess of the cost of capital.

Risks to our PO are (1) the weak economy could reduce fuel demand, (2) the low oil price could slow adoption of natural gas fuel, (3) ports may choose to meet the clean air standard by going to clean diesel trucks rather than natural gas, (4) free cash flow should be negative the next few years, and (4) financing will be needed to build stations.

## **Covanta Holding Corporation (CVA)**

Our \$16 price objective for CVA is based on a peer group analysis and discounted cash flow model, which implies that the stock will face modest compression over the near term. The shares currently trade at a P/E ratio of 21x and forward EV/EBITDA multiple of 9.0x, which represents a premium to the peer group of waste companies and independent power producers. Upside to our price target could stem from higher waste disposal and electricity prices that translate into better than expected EBITDA and free cash generation than we are modeling while downside could result from incremental volume weakness due to recessionary pressures faced in the Northeastern United States in particular.

# Price Objective Basis and Risk

## **Cree, Inc. (CREE)**

Our price objective of \$47 per share is based off 36.0x our F2011 earnings estimate, which is in line historically with similarly high-growth, category leading companies in emerging technologies. We use non-GAAP earnings in this case because it more closely matches cash flow. Risks include competitive margin pressure, deferred LED spending due to the economy, higher sales and channel build-up expenses, and manufacturing glitches as capacity ramps up.

## **Ener1 Inc. (HEV)**

Our price objective is \$9 per share. Estimated revenue of \$450 million in 2012 equates to almost \$3 per share. Our price objective reflects a price-to-sales ratio of 5x discounted back at a 15% rate. A discounted cash flow analysis assuming reasonable success suggests significant potential upside. Risks are: (1) disappointing interest in hybrid and electric vehicles, (2) inability to procure funding for expansion, (3) larger competitors shutting EnerDel out of large contracts, (4) inadequate supply of lithium carbonate to support growth, and (5) superior technology from competitors leapfrogging the company.

## **First Solar, Inc. (FSLR)**

First Solar is one of the few solar companies to earn its cost of capital and should be a long-term winner. At our price objective of \$135, the P/E would be 22x our 2010 estimate, a reasonable 45% premium to the average solar multiple given First Solar's higher earnings quality and superior ROIC. The PEG ratio would be about 1.2x, reasonable for a relatively fast-growing and profitable leader. Risks to our price objective are: (1) falling polysilicon prices that allow silicon solar suppliers to cut into the company's margins, (2) a change in the German feed-in tariff that hurts First Solar given 70% of revenue is in Germany, (3) disruptive competitive threats, such as CIGS or organic solar, and (4) currency movements.

## **Ormat Technologies, Inc. (ORA)**

Our price objective of \$48 is supported by three valuation metrics: (1) one-year forward EV/EBITDA target multiple of 13.5x on our 2010 EBITDA estimate of \$192 million and net debt of \$491 million, (2) sum-of-the-parts framework valuing Ormat's electricity segment on a risk-adjusted net asset value utilizing an EV-to-megawatt multiple of 3.9x, and (3) a discounted cash flow analysis with a WACC of 9.1% and a terminal EV/EBITDA multiple of 10x.

Risks to our price objective are: (1) weak product sales, which can be lumpy, (2) high customer concentration with three utilities, (3) unforeseen maintenance and/or softening in the credit markets that could stress the balance sheet, leaving the company susceptible to external financing resources, and (4) lower electricity prices provided by conventional sources, which have negative implications for geothermal projects as they may not be able to compete on price.

## **SunPower Corp. (SPWR)**

Our price objective of \$26 reflects valuation in line with the median 2010 solar universe P/E and EV/S ratio whereas today SunPower sells at an unwarranted premium in our view. In addition, our Franchise Factor valuation graph suggests the stock is somewhat overpriced, largely due to the company's mediocre mid-single digit ROIC. At our price objective of \$26, the stock would move toward the fairly valued position. Risks to our PO are (1) high module efficiency allowing the company to sell modules at a significant price premium, (2) a pickup in solar demand as tight financing conditions ease, and (3) strong growth in distributed solar where its panels have a competitive edge.

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Coverage Universe	Count	Percent	Inv. Banking Relationships*	Count	Percent
Buy	2	33.33%	Buy	1	50.00%
Neutral	2	33.33%	Neutral	2	100.00%
Sell	2	33.33%	Sell	2	100.00%

## Investment Rating Distribution: Business Services Group (as of 01 Sep 2009)

Coverage Universe	Count	Percent	Inv. Banking Relationships*	Count	Percent
Buy	7	38.89%	Buy	4	57.14%
Neutral	3	16.67%	Neutral	2	66.67%
Sell	8	44.44%	Sell	5	71.43%

## Investment Rating Distribution: Global Group (as of 01 Sep 2009)

Coverage Universe	Count	Percent	Inv. Banking Relationships*	Count	Percent
Buy	1528	47.19%	Buy	740	53.86%
Neutral	815	25.17%	Neutral	436	60.39%
Sell	895	27.64%	Sell	378	45.99%

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Investment rating	Total return expectation (within 12-month period of date of initial rating)	Ratings dispersion guidelines for coverage cluster*
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Neutral	≥ 0%	≤ 30%
Underperform	N/A	≥ 20%

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